AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(Previously Presented) A data projector comprising:

at least one micro display;

at least one light source chip; and

an optically transmissive beam forming component arranged to enclose substantially a hemisphere about the light source chip, where the beam forming component is disposed to direct substantially all light, from the light source chip into the hemisphere, toward the microdisplay with substantially uniform illumination, where said beam forming component comprises at least one of a diffractive or a refractive surface pattern.

2.(Original) The data projector of claim 1, wherein the data projector comprises at least one green LED, at least one blue LED and at least one red LED as light sources.

3.(Original) The data projector of claim 1, wherein the data projector comprises an LCD, LCoS, DMD, MLA LCD, MLA LCoS display or the like as the micro display.

4.(Original) The data projector of claim 1, wherein the data projector further comprises an optical unit between the beam forming component and the micro display for directing the optical radiation more efficiently, the optical unit being a lens, a mirror, a fresnel lens, a diffractive element, a micro lens array, x-cube or other optical component or a series of these or any combination thereof.

5.(Original) The data projector of claim 1, wherein the data projector further comprises an optical unit between the micro display and the focusing unit for directing the optical radiation more efficiently, the optical unit being a lens, a mirror, a fresnel lens, a diffractive element, a micro lens array, x-cube or other optical component or a series of these or any combination thereof.

6.(Original) The data projector of claim 1, wherein the data projector further comprises: means for dividing the beam of light from each light source into two beams with different

polarizations, the micro display being divided into separate parts or using two separate micro displays to which each beam of the two beams of each light source is directed.

7.(Original) The data projector of claim 6, wherein the data projector further comprises means for combining the two beams of light of each light source after the micro display.

8.(Original) The data projector of claim 1, wherein the refractive index of the transparent material in each beam forming component is equal or close to equal to the refractive indexes of the corresponding source chip.

9.(Original) The data projector of claim 1, wherein each beam forming component is integrated with a corresponding light source chip.

10.(Original) The data projector of claim 1, wherein the image is a video image.

11.(Original) The data projector of claim 1, wherein the data projector is a part of a portable electronic device.

12.(Original) The data projector of claim 6, wherein the two different polarizations are projected with separate images which form a stereo pair and viewed with polarization glasses to enable 3D effect.

13.(Original) The data projector of claim 1, wherein the target is a virtual plane.

14.(Original) The data projector of claim 1 in the following uses: television, computer monitor, video projector, slide presenter / slide projector, virtual display projector.

15.(Original) The data projector of claim 1 as an accessory to or integrated into: a mobile phone, a DVD- or other media player, a video camcorder, a digital camera, a Personal Digital Assistant, a Laptop PC, a handheld or desktop gaming device, a video conferencing device, a head mounted display, a multimedia device at home, hotels, restaurants, cars, airplanes, ships and other vehicles; multimedia devices at offices, public buildings and other locations; military displays.

16.(Previously Presented) A data projector comprising:

at least one micro display; and

at least one source unit comprising at least one light source chip,

said source unit further comprising at least one beam forming component disposed in a three dimensional configuration to substantially enclose a hemisphere about the light source chip,

wherein an optically transmissive surface and an optically reflective surface of the beam forming component each comprise at least one of a diffractive and a refractive surface pattern.

17.(Previously Presented) The data projector of claim 16, wherein the data projector comprises at least one green LED, at least one blue LED and at least one red LED as light sources.

18.(Previously Presented) The data projector of claim 16, wherein the data projector comprises an LCD, LCoS, DMD, MLA LCD, MLA LCoS display or the like as the micro display.

19.(Previously Presented) The data projector of claim 16, wherein the data projector further comprises an optical unit between the beam forming component and the micro display for directing the optical radiation more efficiently, the optical unit being a lens, a mirror, a fresnel lens, a diffractive element, a micro lens array, x-cube or other optical component or a series of these or any combination thereof.

20.(Previously Presented) The data projector of claim 16, wherein the data projector further comprises an optical unit between the micro display and the focusing unit for directing the optical radiation more efficiently, the optical unit being a lens, a mirror, a fresnel lens, a diffractive element, a micro lens array, x-cube or other optical component or a series of these or any combination thereof.

21.(Previously Presented) The data projector of claim 16, wherein the data projector further comprises: means for dividing the beam of light from each light source into two

beams with different polarizations, the micro display being divided into separate parts or using two separate micro displays to which each beam of the two beams of each light source is directed.

22.(Previously Presented) The data projector of claim 21, wherein the data projector further comprises means for combining the two beams of light of each light source after the micro display.

23.(Previously Presented) The data projector of claim 16, wherein the refractive index of the transparent material in each beam forming component is equal or close to equal to the refractive indexes of the corresponding source chip.

24.(Previously Presented) The data projector of claim 16, wherein each beam forming component is integrated with a corresponding light source chip.

25.(Previously Presented) The data projector of claim 16, wherein the image is a video image.

26.(Previously Presented) The data projector of claim 16, wherein the data projector is a part of a portable electronic device.

27.(Previously Presented) The data projector of claim 21, wherein the two different polarizations are projected with separate images which form a stereo pair and viewed with polarization glasses to enable 3D effect.

28.(Previously Presented) The data projector of claim 16, wherein the target is a virtual plane.

29.(Previously Presented) The data projector of claim 16 in the following uses: television, computer monitor, video projector, slide presenter / slide projector, virtual display projector.

30.(Previously Presented) The data projector of claim 16 as an accessory to or integrated into: a mobile phone, a DVD- or other media player, a video camcorder, a digital camera, a

Personal Digital Assistant, a Laptop PC, a handheld or desktop gaming device, a video conferencing device, a head mounted display, a multimedia device at home, hotels, restaurants, cars, airplanes, ships and other vehicles; multimedia devices at offices, public buildings and other locations; military displays.

31.(Previously Presented) The data projector of claim 16, where said at least one source unit is operable to preserve etendue and minimize photon loss.

32.(Previously Presented) The data projector of claim 16, wherein the beam forming component comprises a light emitting diode.

33.(Previously Presented) A method of data projection comprising:

operating at least one light source chip of at least one source unit for illuminating at least one micro display, while preserving etendue, and minimizing photon loss;

where operating the at least one light source chip comprises beam forming the illumination to provide a desired projection shape and a substantially uniform illumination using a plurality of surfaces disposed in a three dimensional configuration that substantially encloses a hemisphere about the light source chip, where said at least one optically reflective surface of the plurality of surfaces comprises at least one of a diffractive and a refractive surface pattern,

focusing a desired image resulting from illumination of the micro display; and

projecting the focused image onto a target.

34.(Previously Presented) A method as in claim 33, wherein the at least one light source chip comprises a LED (Light Emitting Diode) source.

35.(Previously Presented) A method as in claim 33, wherein an optical output of the at least one light source chip has a bandwidth of about one nanometre to about 150 nanometres.

36.(Previously Presented) A method as in claim 33, wherein an optical output of the at least one light source chip has a bandwidth of about 10 nanometres to about 50 nanometres.

37.(Previously Presented) A method as in claim 33, wherein the at least one light source chip is mounted on a reflective surface.

38.(Previously Presented) A method as in claim 33, wherein the at least one light source chip is mounted on a reflective metal surface to conduct heat away.

39.(Previously Presented) A method as in claim 33, wherein the beam forming component comprises a reflective component.

40.(Previously Presented) A method as in claim 33, wherein the at least one source unit comprises at least three light source chips outputting red, green and blue light, the at least three light source chips being integrated with the beam forming component, the beam forming component comprising at least one diffractive element optimized for red, green and blue simultaneously.

41.(Previously Presented) A method as in claim 33, wherein the micro display comprises at least one of an LCD (liquid crystal device), a DMD (digital micro mirror device), a LCoS (liquid crystal on silicon) based spatial modulator and a micro-lens array (MLA) with a LCD.

42.(Previously Presented) A method as in claim 33, wherein focusing comprises using at least one of a single lens, a fresnel lens, a single mirror, a diffractive optical element, and a hybrid refractive-diffractive element.

43.(Currently Amended) A beam forming component disposed in a three dimensional configuration to substantially enclose a hemisphere about a light source, where at least one optically reflective surface of the beam forming component, within the hemisphere, comprises micro-optical structures, the beam forming component further comprising a transparent material adjacent to the light source chip that has an index of refraction matched to that of the light source chip.

44.(Previously Presented) The data projector of claim 1, wherein the beam forming component further directs substantially all light, from the light source chip into the

hemisphere, toward the microdisplay with a desired projection shape and uniform illumination.

45.(Previously Presented) The data projector of claim 1, further comprising a focusing optical unit for projecting the image of the micro display on a target.

46.(Previously Presented) The data projector of claim 1, wherein the said at least one of a diffractive or a refractive surface pattern is disposed on an optically transmissive surface of the beam forming component, further wherein at least one of a diffractive or a refractive surface pattern is disposed on an optically reflective surface of the beam forming component.

47.(Previously Presented) The data projector of claim 1, wherein the beam forming component comprises a transparent material adjacent to the light source chip that has an index of refraction matched to that of the light source chip.

48.(Previously Presented) The data projector of claim 47, wherein the matched indices of refraction are within about 0.4 of one another.

49.(Previously Presented) The data projector of claim 16, wherein the beam forming component is disposed to provide a desired projection shape and a substantially uniform illumination onto the micro display.

50.(Previously Presented) The data projector of claim 16, further comprising a focusing optical unit for projecting the image of the micro display on a target.

51.(Previously Presented) The data projector of claim 16, wherein the beam forming component comprises a transparent material adjacent to the source unit that has an index of refraction matched to that of the source unit.

52.(Previously Presented) The data projector of claim 49, wherein the matched indices of refraction are within about 0.4 of one another.

53.(Currently Amended) A data projector comprising:

a light source;

a micro display; and

a beam forming component comprising a transparent material adjacent to the light source that has an index of refraction matched to that of the light source chip, said beam forming component defining micro optical structures at least along a surface that is not perpendicular to a line between the light source and the micro-display.

54.(Previously Presented) The data projector of claim 53, wherein the beam forming component is disposed to substantially enclose a hemisphere about the light source.

55.(Previously Presented) The data projector of claim 53, wherein the said surface is a portion of an arcuate surface.

56.(Currently Amended) ~~The data projector of claim 53, wherein the beam forming component comprises~~ A data projector comprising:

a light source;

a micro display; and

a beam forming component comprising a plurality of planar optically transmissive surfaces ~~and~~ having micro optical structures ~~are defined~~ on at least three of said planar surfaces that are not perpendicular to ~~the line~~ a line between the light source and the micro display.

57.(Previously Presented) The data projector of claim 53, wherein the beam forming component further comprises at least one optically reflective surface that defines micro optical structures.

58.(Previously Presented) The data projector of claim 53, wherein the beam forming component and the micro optical structures are disposed to provide substantially uniform illumination at the micro display.

59.(Previously Presented) The data projector of claim 53, wherein the light source comprises a reflective substrate that substantially envelops the light source with the beam forming component.

60.(Canceled)

61.(Currently Amended) The data projector of ~~claim 60~~claim 53, wherein the matched indices of refraction ~~comprises~~are within about 0.4 of one another.

62.(Previously Presented) The beam forming component of claim 43, further comprising a micro display disposed adjacent to an optically transmissive surface of the beam forming component.

63.(Previously Presented) The beam forming component of claim 62, wherein the beam forming component is configured to provide substantially uniform illumination to the micro display.

64.(Previously Presented) The beam forming component of claim 43, wherein an optically transmissive surface of the beam forming component, within the hemisphere, comprises micro optical structures.

65.(Previously Presented) The beam forming component of claim 43, in combination with a reflective substrate that together substantially envelope the light source.

66.(Canceled)

67.(Currently Amended) The beam forming component of ~~claim 66~~claim 43, wherein the matched indices of refraction are within about 0.4 of one another.

68.(Previously Presented) The beam forming component of claim 43 in combination with a micro display, said beam forming component disposed to provide a substantially uniform illumination onto a micro display.

69.(Previously Presented) The beam forming component of claim 68 further disposed to provide a desired projection shape onto the micro display.